



**REMARKS**

In response to the Office Action dated December 20, 2000, Applicants respectfully request reconsideration and withdrawal of the rejections of the claims.

All pending claims were rejected under 35 U.S.C. §102 as being anticipated by one or more of the Quick et al, Elles et al '144 and Cheng et al patents. Each of these patents discloses a transducer which is moved relative to a workpiece along X and Y axes, and in addition is rotatable about a Z axis. As set forth in the statement of rejection based upon the Quick et al patent, since the transducer can rotate about the Z axis there will be at least one angular position where the transducer head lies along a line between the X and Y axes. Presumably, this same line of reasoning is being employed in the rejections based upon the Elles et al and Cheng et al references, as well.

In contrast to the arrangements disclosed in these references, the present invention employs a transducer which is oriented so that its longitudinal axis lies along a line dividing the X and Y translational axes at all times during a wire bonding operation. For example, in the embodiments of the invention illustrated in Figures 4, 5 and 6 of the present application, it can be seen that the transducer has a fixed orientation relative to the X and Y axes. In the preferred embodiment of the invention, this orientation is along a line which bisects the X and Y axes, i.e. at an angle of 45° relative to each axis. In the embodiment of Figure 6, the bonding head supporting means is adapted to move along the X and Y axes. As a result, the longitudinal axis of the transducer may move, but it still remains oriented in substantially the same position throughout the wire bonding operation.

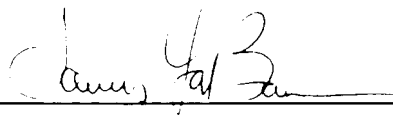
In contrast, the rotational mounting of the transducer that is disclosed in each of the three applied references results in a situation where the transducer can have a variety of different angular orientations during the course of a wire bonding operation. While it may be oriented at an angle relative to the X and Y axes in some instances, at other times it is likely to be arranged parallel to the X axis, or the Y axis, or both. As pointed out in the background portion of the present application, such an arrangement is disadvantageous, particularly from the standpoint of the operator's ability to properly observe the bonding process and perform necessary alignment and set up steps. In contrast, the distinguishing arrangement of the present invention, which is now clearly set forth in the claims, avoids these types of limitations.

For the foregoing reasons, it is respectfully submitted that all pending claims are neither anticipated, nor otherwise suggested, by any one or more of the Quick et al, Elles et al or Cheng et al references. Reconsideration and withdrawal of the rejections of the claims are therefore respectfully requested.

Respectfully submitted,

BURNS, DOANE, SWECKER & MATHIS, L.L.P.

By: \_\_\_\_\_

  
James A. LaBarre  
Registration No. 28,632

P.O. Box 1404  
Alexandria, Virginia 22313-1404  
(703) 836-6620

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**Attachment to Amendment dated May 21, 2001**

**Marked-up Claims -**

1. (Amended) Wedge wire bonding apparatus comprising:
  - (a) means for supporting a workpiece,
  - (b) a bonding head including a transducer having a longitudinal axis,
  - (c) means for causing relative movement of the workpiece and the transducer along orthogonal X and Y axes simultaneously, and
  - (d) means for supporting the bonding head above the workpiece such that the longitudinal axis of said transducer lies, at all times during a wire bonding operation, along a line dividing said X and Y axes.